IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Thorsten MAYER et al.
Based on	:	PCT/DE 03/03196
Title	:	Exhaust-Gas Cleaning System For An Internal Combustion Engine, and Method For Cleaning The Engine Exhaust Gases
Docket No.	:	R.303672
Customer No.	:	02119

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Date: March 14, 2005

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97(b), AND EXPLANATION OF THE RELEVANCE OF THE CITED PRIOR ART

Sir:

The undersigned hereby requests that the prior art cited on the attached prior art statement be placed of record in the application file and be considered by the examiner.

This citation of prior art is made under 37 CFR 1.97(b), since it is being filed within three months of the filing date and before the mailing of a first Office action.

The relevance of the prior art cited on the attached form 1449 is as follows:

US 6,134,722 B1

This patent teaches a converter for purifying exhaust gases from lean-burn engines, in particular for controlling the amount of NO_x and soot from a diesel engine in transient operation such as a vehicle. The converter contains a catalyst bed with a catalyst effective for NO_x reduction with a chemical reductant. The catalyst bed is within a certain temperature window and the ratio between the molar amount of chemical reductant and NO_x is above a certain minimum ratio. The catalyst bed is heated or cooled to a temperature within the temperature window and a switching valve is provided for reverse flowing the exhaust gases through the converter to maintain the catalyst bed at a temperature within the temperature window for a longer time than is possible with a conventional non-flow-reversing converter. A reductant delivery system adds chemical reductant to the exhaust gases in an appropriate amount so that the ratio between the molar amount of chemical reductant and NO_x is above the certain minimum ratio when the exhaust gases pass over the catalyst bed. A soot trap may be provided in series with the catalyst bed in the converter. The reverse flowing of the exhaust gases is sent through converter heating. The ignition temperature of the soot is continuously maintained at or above the ignition temperature of the soot.

US 6,200,535 B1

This patent teaches a purification device that includes a porous body and a catalyst. The porous body comprises has at least one flow-through duct through which a pollutant-containing gas stream flows. An addition duct is integrated into the porous body and is closed off on the gas stream inflow side. Adjacent to the flow duct the addition duct has openings for

feeding a reducing agent to the gas as it flows through the porous body. The openings are at a saturation length of the porous body after which a decrease in saturation of a pollutant occurs. The catalyst has the general chemical formula $A_aB_bO_4$ in which A is at least one bivalent metal and B is at least one trivalent metal such that a+b=3. The catalyst has at least microscopically, a crystalline or crystalline cubic lattice structure with face-centered oxygen ions and tetrahedral or octahedral gaps. The A atoms and up to 50% of the B atoms are disposed of tetrahedral gaps and the remaining B atoms are disposed in the octahedral gaps.

EP 1 022 048 A1

This patent teaches a process and device for metering a reducing agent. Diesel engine exhaust gases containing a high proportion of nitric oxides are treated by mixing with precisely dosed urea to ensure adequate reduction of the NO_x gases and to prevent the generation of ammonia as a by-product. Diesel engine exhaust gases containing a high proportion of nitric oxides (NO_x) are treated by mixing with precisely dosed urea employed as a reduction agent. The urea is dosed in a precise quantity to ensure adequate reduction of the NO_x gases and to prevent the generation of ammonia as a by-product. Full mixing of the NO_x gases with dosed urea is achieved by means of fixed vanes (7) which generate rotary gas motion within the exhaust pipe. The vane angle and rate of urea release is adjustable to match changing operating conditions.

JP 7-100335

This patent teaches a method for efficiently removing NO_x from waste combustion gas incorporating oxygen. Particularly, the waste gas is exhausted from a combustion chamber or an internal-combustion engine which are using kerosene and light oil as a fuel. The method comprises the removal of nitrogen oxide from the combustion waste gas incorporating oxygen in the presence of a catalyst by using hydrocarbons as a reducing agent. The hydrocarbons are introduced by dividing them to the upper stream of a catalyst layer. The hydrocarbons are also sent to at least one place of the catalyst layer in the case that it is a one stage catalyst layer or alternatively to at least one place among the catalyst layers in the case that there are multi-stage catalyst layers.

Bunting A., "Springing the Trap", Automotive Engineer, Mechanical Engineering Publ. LTD. Bury St. Edmunds, GB, Bd. 25, Nr. 5 May 2000, S. 73-74, XP000936087, ISSN: 0307-6190

This reference teaches a particulate matter trap for diesel exhaust systems. The trap is comprised of a continuously regenerating trap (CRT) with selective catalytic reduction (SCR). The trap is capable of cutting oxides of nitrogen (No_x) to 2 g/kWh and particulate matter (PM) to 0.02 and 0.03 g/kWh. The respective engine must use fuel with less than 10 parts-per-million in sulphur content. A platinum pre-catalyst is used to break down some of the No_x exhaust into nitrogen dioxide (NO_2) and nitric oxide (NO). The released NO_2, as well as allowing particulate matter collected on the CRT filter section to burn off at normal exhaust temperatures of 250-300°C, also augments the action of the system's ammonia injection into the exhaust stream in stimulating SCR catalytic activity. Catalyst performance

is increased by creating a larger number of active sites on the substrate such as a cellular ceramic block of a given size.

Examination of this application is respectfully requested.

Respectfully submitted,

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INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Docket Number (Optional)	Application Number
R.303672	10/527584
Applicant(s)	
Thorsten MAYER et al	
Filing Date	**Group Art Unit**
March 14, 2005	

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,314,722 B1	11-13-2001	Yurii Sh. MATROS et al			
		6,200,535 B1	03-3-2001	Martin HARTWEG et al			

U.S. PATENT APPLICATION PUBLICATIONS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO
		EP 1 022 048 A1	07-26-2000	European				✓
		JP 7-100335	04-18-1995	Japan				✓

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

		Bunting A,:"Spinging the Trap", Automotive Engineer, Mechanical Engineering Publ. LTD. Bury St. Edmunds, GB, Bd. 25, Nr.5 May 2000, S.73-74, XP000936087, ISSN: 0307-6490

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.